

AMENDMENTS TO THE CLAIMS:

Please amend claims 1-16 and add newly written claim 19 as follows.

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A ~~deformable~~ mirror structure comprising:
a self-deforming mirror having a periphery, wherein said mirror comprises a reflective element provided on a substrate that is secured to a deformable element, wherein the substrate comprises including at least one coolant channel having a pair of inlet and outlet ports both located around the peripheral edge of the substrate, and
a support structure for supporting said mirror around said periphery, said support structure having corresponding inlet and outlet ports fluidly connected to said substrate inlet and outlet ports.

2. (currently amended) A ~~deformable~~ mirror structure as in claim 1, wherein the substrate ~~comprises~~ includes a plurality of coolant channels interconnected by a chamber, each channel terminating in a port having ports located around the peripheral edge periphery of the substrate and wherein the channels are interconnected by a chamber.

3. (currently amended) A ~~deformable~~ mirror structure as in claim 2, wherein the plurality of channels intersect to form the chamber.

4. (currently amended) A ~~deformable-mirror~~ structure as in claim 3, wherein the chamber is located in a central portion of the substrate and the plurality of channels extend radially from the chamber to the periphery ~~to intersect at the centre~~ of the substrate.

5. (currently amended) A ~~deformable-mirror~~ structure as in claim 3, wherein the channels extend in an offset arrangement from a substantially ring-shaped chamber located in a central portion of the substrate to the peripheral edge of the ~~mirrorsubstrate in an offset arrangement,~~ thereby intersecting to form a substantially ring-shaped chamber.

6. (currently amended) A ~~deformable-mirror mount~~ structure and a ~~deformable mirror~~ as in claim 1, wherein the support structure ~~mount has~~ comprises a body with a central aperture defined by at least one supporting element ~~surface~~ sized and shaped to support the self-deforming mirror ~~when installed~~, and wherein the mount ~~support structure~~ corresponding inlet and outlet ports ~~is provided with at least a pair of channels that terminate to face the inlet and outlet ports in the substrate~~ mirror when the mirror is installed, further including flexible seals between the channels of the mirror ~~substrate and the mount being connected via flexible seal~~ support structure.

7. (currently amended) A ~~deformable-mirror holder and a deformable-mirror~~ structure as in claim 6, wherein the flexible seals are O-rings ~~that are positioned to surround the channels in the mirror and mount where they terminate to face each other.~~

8. (currently amended) A ~~deformable mirror holder and a deformable mirror~~ structure as in claim 6, wherein the ~~mirror comprises~~ substrate includes a plurality of channels and the support structure includes a plurality of channels, ~~that terminate to form a plurality of ports in the peripheral edge of the substrate and wherein a channel is provided in the mount for each port, the channel terminating to face its associated port and wherein alternate channels~~ around the periphery of the substrate comprise ~~communicate to an inlet and an outlet~~ ports.

9. (currently amended) A ~~deformable mirror holder and a deformable mirror~~ structure as in claim 6, wherein the central aperture of the mount ~~support structure~~ is defined by a plurality of flexible beams, each flexible beam having an end shaped to provide ~~the~~ a supporting surface for the self-deforming mirror and a flexible portion that connects ~~the beam's an end of the beam to the mount's body~~ a body of the support structure.

10. (currently amended) A ~~deformable mirror holder and a deformable mirror~~ structure as in claim 9, wherein at least one of the flexible beams is generally L-shaped such that one leg of the L-shape provides the flexible portion and the other leg of the L-shape provides the supporting surface of the beam's end.

11. (currently amended) A ~~deformable mirror holder and a deformable mirror~~ structure as in claim 10, wherein each flexible beam further includes a shoulder portion for providing support to the periphery of said substrate ~~the internal corner of the L-shaped beam has a shoulder that extends part of the way along both legs such that the mirror when installed is supported from~~

~~below by the supporting surface of the flexible beam and from the side by the shoulder of the flexible beam.~~

12. (currently amended) A ~~deformable mirror holder and a deformable mirror~~ structure as in claim 9, wherein each of the channels in the support structure terminate at a gap between an adjacent pairs of flexible beams.

13. (currently amended) A ~~deformable mirror holder and a deformable mirror~~ structure as in claim 12, wherein the channels in the support structure are ~~provided~~ defined by plugs inserted into passages provided in the ~~mount's body~~ of said support structure.

14. (currently amended) A ~~deformable mirror holder and a deformable mirror~~ structure as in claim 13, wherein the flexible seals are O-rings and the flexible beams are shaped to accommodate the plugs and the O-rings provide an interface between ~~that connect the plugs to the mirror's peripheral edge to the periphery of the substrate.~~

15. (currently amended) A ~~deformable mirror holder and a deformable mirror~~ structure as in claim 13, wherein the channels defined by ~~in~~ the plugs communicate with a pair of channels provided in an outer surface of the ~~mount's support structure~~ body that extends around the aperture.

16. (currently amended) A ~~deformable mirror holder and a deformable mirror~~ structure as in claim 15, wherein channels defined by ~~in~~ alternate plugs communicate with one or the ~~other~~ other, in turn, of the pair of channels in the mount's body in turn support structure body.

Claims 17-18. (cancelled)

19. (new) A mirror structure as in claim 1 wherein said support structure is a flexible support structure.